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LIN28B Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1485A

Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	Q6ZN17
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	27084
Antigen Region	1-30

Additional Information

Gene ID	389421
Other Names	Protein lin-28 homolog B, Lin-28B, LIN28B, CSDD2
Target/Specificity	This LIN28B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human LIN28B.
Dilution	WB~~1:2000 IHC-P~~1:100~500 FC~~1:25 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	LIN28B Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LIN28B
Synonyms	CSDD2
Function	Suppressor of microRNA (miRNA) biogenesis, including that of let-7 and possibly of miR107, miR-143 and miR-200c. Binds primary let-7 transcripts (pri-let-7), including pri-let-7g and pri-let-7a-1, and sequester them in the

	nucleolus, away from the microprocessor complex, hence preventing their processing into mature miRNA (PubMed:22118463). Does not act on pri-miR21 (PubMed:22118463). The repression of let-7 expression is required for normal development and contributes to maintain the pluripotent state of embryonic stem cells by preventing let-7-mediated differentiation. When overexpressed, recruits ZCCHC11/TUT4 uridylyltransferase to pre-let-7 transcripts, leading to their terminal uridylation and degradation (PubMed:19703396). This activity might not be relevant in vivo, as LIN28B-mediated inhibition of let-7 miRNA maturation appears to be ZCCHC11-independent (PubMed:22118463). Interaction with target pre-miRNAs occurs via an 5'- GGAG-3' motif in the pre-miRNA terminal loop. Mediates MYC-induced let- 7 repression (By similarity). When overexpressed, isoform 1 stimulates growth of the breast adenocarcinoma cell line MCF-7. Isoform 2 has no effect on cell growth.
Cellular Location	Nucleus. Nucleus, nucleolus. Cytoplasm Note=Predominantly nucleolar (PubMed:22118463). In Huh7 cells, predominantly cytoplasmic, with only a subset of cells exhibiting strong nuclear staining; however, the specificity of the polyclonal antibody used in these experiments has not been not documented (PubMed:16971064).
Tissue Location	Expressed at high levels in the placenta and, at mucher lower, in testis and fetal liver (PubMed:16971064). Isoform 1 is only detected in placenta and in moderately and poorly differentiated hepatocellular carcinoma cells (at protein level). Isoform 2 is detected in fetal liver, non-tumor liver tissues, as well as well- differentiated tumor tissues (at protein level). Tends to be up-regulated in triple-negative (ER-,PR-,HER2-) breast tumors, as well as in liver, ovarian, and thyroid carcinomas (PubMed:22118463)

Background

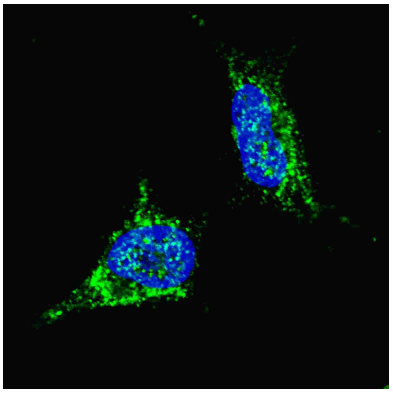
Lin-28 homolog B (LIN28B) is overexpressed in hepatocellular carcinoma. The heterochronic gene lin-28 is a key regulator of developmental timing in the nematode Caenorhabditis elegans. Similar with lin-28 proteins, LIN28B conserves a cold shock domain and a pair of CCHC zinc finger domains. Phylogenetic analysis suggests that they might arise as a result of duplication from an ancestral gene. Overexpression of LIN28B was noted in most HCC cell lines and clinical samples. A short LIN28B isoform was also identified in non-tumor liver tissue and fetal liver. Although predominantly localized in the cytoplasm, LIN28B protein shows cell cycle-dependent nuclear translocation in Huh7 cells. Induced expression of exogenous LIN28B in a tet-off cell line promoted cancer cell proliferation.

References

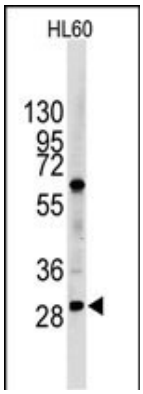
References for protein:
Guo,Y., Gene 384, 51-61 (2006)
References for SY5Y (SH-SY5Y; ATCC#CRL-2266): 1. Ross RA, et al. Coordinate morphological and biochemical interconversion of human neuroblastoma cells. J. Natl. Cancer Inst. 71: 741-749, 1983. [PubMed: 6137586]; 2. Biedler JL, et al. Multiple neurotransmitter synthesis by human neuroblastoma cell lines and clones. Cancer Res. 38: 3751-3757, 1978. [PubMed: 29704].

Images

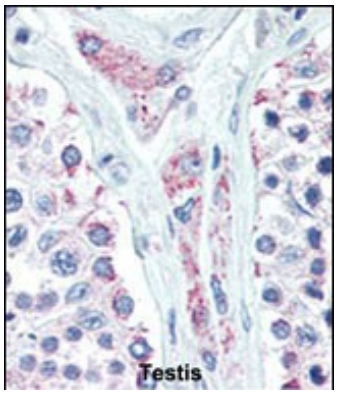
Fluorescent confocal image of SY5Y cells stained with LIN28B (N-term) antibody. SY5Y cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP1485a LIN28B (N-term) primary antibody (1:100, 2 h at room



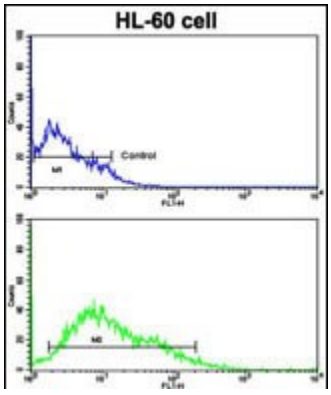
temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). Note the highly specific localization of the LIN28B immunosignal to the cytoplasm, supported by Human Protein Atlas Data (http://www.proteinatlas.org/ENSG00000187772).



Western blot analysis of LIN28B Antibody (N-term) (Cat.#AP1485a) in HL60 cell line lysates (35ug/lane). LIN28B (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human Testis tissue reacted with LIN28B Antibody (N-term)(Cat.#AP1485a), which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of HL-60 cells using LIN28B Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Role of ribosomal protein RPS2 in controlling let-7a expression in human prostate cancer.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.